

43A		<u>Relative Effective Precipitation - RV (inches)</u>						Version 4-10
		<----- Drier ----- Moisture Regime ----- Wetter ----->						
		13-17" xeric & ustic	>17-20" xeric & ustic	>19-24" ustic moist	>24-30" udic, dry	>30-45" udic	>45-100" udic, moist	Ubiquitous sites
Frost-free Days (RV)	>90-105 frigid	LRU A -- Rangeland 70-110 FFD Bluebunch (70%) with rough fescue component (20%).	LRU B -- 70-105 FFD Rangeland Xeric Dominantly rough fescue (80%) with some bluebunch (10%). Lower elevations on north aspects, but wraps the slope at higher elevations.	LRU D -- Forestland dominated, 70-100 FFD. PSME/SYAL, CARU, PHMA.		LRU F -- Forest ABGR/CLUN		LRU Y Typically includes ecological sites with water table less than 42"
	>70-90 frigid cool		LRU C -- Predominantly Forestland 70-105 FFD Xeric moist & Ustic PIPO/PUTR, AGSP, FEID.		LRU E -- ABGR/XETE, PSME/LIBO, larch, ABGR/LIBO, PSME/VAGL-XETE.			
	>50-70 cryic warm				LRU H -- Forest ABLA/LIBO, ABLA/VACA, PSME/VAGL-XETE, PSME/XETE-VASC.		LRU I -- Big Mountain and Upper Swan Valley. Cold cedar/clintonia sites. THPL/CLUN, TSME/CLUN	
	>30-50 cryic					LRU G -- In rainshadow area. ABLA/CLUN.		
	>15-30 cryic cool						LRU J -- grouse whortleberry, ABLA/VASC, ABLA/LAHI	
	<15 cryic cold (above treeline)						LRU K -- alpine. Whitebark pine/Alpine larch (PIAL/LALY), mountain heath.	
	<----- Colder ----- Temperature Regime ----- Warmer ----->							

Notes:

1. Moisture values as fed into the matrix are Relative Effective Annual Precipitation, which is the same as actual ppt on neutral aspects.
2. Key plants are based on a deep Loamy soil in the reference community.
3. Examples of vegetation communities, habitat types, and locations outline the central concept of the LRU and are not comprehensive.

43B		<u>Relative Effective Precipitation - RV (inches)</u> <----- Drier ----- Moisture Regime ----- Wetter ----->						Version 7-10
		9-14" ustic, dry	>14-19" ustic	>19-24" ustic moist	>24-30" udic, dry	>30-40" udic	>40-80" udic, moist	Ubiquitous sites
Frost-free Days (RV) Temperature Regime -----> <----->	>90-110 frigid		LRU B -- Forested sites. PIPO					LRU Y Typically includes ecological sites with water table less than 42" or fractured rock.
	>70-90 frigid cool	LRU A -- Bluebunch, needleandthread 70-100 FFDs	LRU C -- Bluebunch and Idaho fescue dominant. Found in southern portion of 43B. LRU M -- Rough fescue dominant, Idaho fescue. Found in north and east parts of 43B.	LRU E -- FFD = 50-90 Range -- Richardson's needlegrass, rough fescue, sticky geranium... Forested -- PSME/SYAL; PSME/CARU; PSME/PHMA	LRU G -- Forested Limited extent			
	>50-70 cryic warm		LRU D -- Range Bluebunch Idaho fescue. Forested -- PSME		LRU H -- Forested PSME/VAGL ABLA/CARU; ABLA/CAGE;			
	>30-50 cryic			LRU F -- Richardson's needlegrass	(ABLA/XETE Typically near 43A transition)	LRU I -- ABLA/VAGL; ABLA/LIBO (ABLA/MEFE Typically near 43A transition line).		
	>15-30 cryic cool						LRU J -- 40-60 REAP ABLA/VAS C	
	<15 cryic cold (above treeline)			LRU L -- High Alpine 8000+ ft			LRU K -- Sub-Alpine fir; whitebark; mountain heath; dwarf willow, etc...	

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44A		Relative Effective Precipitation - RV (inches) <----- Drier ----- Moisture Regime ----- Wetter ----->					Version 4-10
		10-14" xeric, dry and ustic, dry	>14-19" xeric and ustic	>19-24" ustic moist	>24-30" udic, dry	>30-45" udic	Ubiquitous sites
<-- Colder -- Temperature Regime -- Warmer --> Frost-free Days (RV)	>105-120 frigid warm	LRU A -- rangeland Total FFD = 90-120 REAP = 10"-14" Bluebunch wheatgrass, needleandthread.	LRU B -- rangeland Total FFD = 70-120. REAP = 14"-19" Rough fescue, Idaho fescue. LRU C -- foresland Total FFD = 70-105 REAP = 16" - 19" PIPO transition sites where PIPO is coming in. Ponderosa pine with antelope bitterbrush; bluebunch wheatgrass; Idaho fescue.				LRU Y -- Typically includes ecological sites with water table less than 42"
	>90-105 frigid			LRU D -- forestland 70-105 FFD Douglas-fir/ snowberry/ bluebunch wheatgrass; ninebark.	LRU E -- forestland 70-105 FFD Moist Douglas-fir sites; Larch; twinflower.	LRU F -- forestland 70-105 FFD Grand fir; queencup beadlily; clintonia; western red cedar; western hemlock.	
	70-90 frigid cool						

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44B		Version 4-10			
		<div>Relative Effective Precipitation - RV (inches)</div> <div><---- Drier ----- Moisture Regime ---- Wetter ----></div>			
		9-14" ustic, dry	>14-19" ustic	>19-22" ustic, moist	Ubiquitous sites
<div><----- Colder ----- Temperature Regime ----- Warmer -----></div> <div>Frost-free Days (RV)</div>	>90-110 frigid	LRU A -- Range Bluebunch wheatgrass, needleandthread. Can have small amounts of rough fescue.	LRU B -- Range Tends to occur in southern portion of 44B. Bluebunch wheatgrass dominated, Idaho fescue, lupine, big sagebrush. LRU C -- Range Tends to occur in Northern portion of 44B. Rough fescue dominated; Idaho fescue, lupine, big sagebrush. Scattered PIPO.		LRU Y -- Typically includes ecological sites with water table less than 42"
	>70-90 frigid, cool			LRU E -- FFD=70-100 days. Richardson's needlegrass; sticky geranium; Idaho fescue; bearded wheatgrass.	
	<70 cryic and cryic, warm		LRU D -- Range High cold valleys Mainly in southern part of 44B. Bluebunch, Idaho fescue, lupine, sagebrush. (less overall production here than in LRU B).	LRU F -- High cold valleys Richardson's needlegrass, shrubby cinquefoil.	
	<50 cryic				

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46		<i>Relative Effective Precipitation - RV (inches)</i> <---- Drier ----- Moisture Regime ---- Wetter ---->			Version 4-10
		10-14" ustic, dry	>14-19" ustic	>19-24" ustic, moist	Ubiquitous sites
<----- Colder ---- Temperature Regime ---- Warmer -----> Frost-free Days (RV)	>110-130 frigid, warm	LRU A - Rangeland. South edge of Snowie fans; Fairfield bench. Bluebunch, needleandthread, fringed sagewort; there is limber pine on some sites, but canopy cover of trees is <25%. Forest maybe, but not sure (limber pine/PSSP6.) (frigid-- 90-110 days): Rangeland - Augusta, Bynum, east of Dupuyer. Bluebunch, needleandthread, green needlegrass, fringed sagewort.	LRU B - rangeland. Lewistown area. Bluebunch, little bluestem. LRU C - East side of Bearspaw Mtns, Cleveland/Lloyd area, Blaine County. Rough fescue, Bluebunch, little bluestem. LRU D - rangeland. Foothills of the Big Belts; west of Augusta, Raynesford, Highwoods, west side of Bearspaw Mtns, and along the Front. Rough fescue, idaho fescue, Bluebunch.		LRU Y -- Typically includes ecological sites with water table less than 42"
	>90-110 frigid				
	>70-90 frigid, cool		LRU E - Rangeland- The Front range of Rocky Mtns. Rough fescue, Idaho fescue, Bluebunch. Forest-limber pine/FECA. LRU F - Rangeland - Snowy area, S. Little belts, N of the Musselshell. Bluebunch, Idaho fescue, Cussick's bluegrass. LRU G - Rangeland - 70-110 FFD, Sweetgrass co, Stillwater, Carbon and Bighorn counties. S. of the Musselshell. Bluebunch, Idaho, Cussick's, Spike fescue.	LRU I - Rangeland - southern Stillwater/Carbon counties. Richardson's needlegrass, bluebunch, Spike fescue, bearded wheatgrass. Forest - Pipo/Psme - Little Snowies. LRU J - Rangeland - North and West sides of Big Belts, Babb area. Rough fescue, Richardson's needlegrass.	
	50-70 cryic, warm		LRU H - Rangeland - Off NE corner of Crazy Mtns. Cusick's, Idaho, Bluebunch, Western/Columbia needlegrass. Forest- SW corner of Crazy Mtns. PSME on north aspects; PIPO on neutral/south aspects.	LRU K - Rangeland - Southern Stillwater; Carbon counties against the Beartooths. Bearded wheatgrass, Richardson's needlegrass, western/columbia needlegrass, shrubby cinquefoil. Forest - spruce/Pico/Psme; Little Snowies; Rock Creek; Red Lodge Spruce is in draws, NE aspects, cooler aspects. PSME is warmer aspects.	

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2. Key plants are based on a deep Loamy soil in the reference community. Remember that porcupinegrass can be in 46 (describe at site level).
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52			<u>Relative Effective Precipitation - RV (inches)</u>			Version 4-10
			<--- Drier ----- Moisture Regime ---- Wetter ---->			
			>10-12" ustic, dry	>12-14" ustic, dry	>14-16" ustic	Ubiquitous sites
<--- Colder ---- Temperature Regime ---- Warmer ----> Frost-free Days (RV)	>100-140 frigid, warm	90-130 frigid	LRU A -- 100-140 FFD Rangeland. Hill Co. and west . Bluebunch	LRU B -- 100-140 FFD Rangeland. Blaine Co. and east. Little bluestem-Bluebunch.		LRU Y -- Typically includes ecological sites with water table less than 42"
					LRU C -- 90-130 FFD Rangeland. Glacier County (formerly mapped as 46), South Hill and vicinity. Moraine south of Havre below Bearpaw Lake. Rough fescue, ROSA/SYAL, thickspike/western are increasers. LRU D -- 90-130 FFD Rangeland. Great Falls and vicinity. Bluebunch; needleandthread is increaser.	

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53A		<u>Relative Effective Precipitation - RV (inches)</u> <--- Drier ----- Moisture Regime --- Wetter ---->
		12-14" ustic
<--- Colder --- Temperature Regime --- Warmer --> Frost-free Days (RV)	105-130 frigid, warm	<p>LRU Y - Rangeland. Little bluestem; porcupinegrass; needleandthread. Silver buffaloberry on escarpments.</p> <p>Forest. Green ash in swales; aspen in steep concave position; aspen stands on escarpments.</p>

Version 4-10

Notes:

1. PPT values as fed into the matrix are Relative Effective Annual Precipitation, which is the same as actual ppt on neutral aspects.
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58A		Relative Effective Precipitation <--- Drier--- Moisture Regime --- Moist --->			
		Aridic Ustic	Typic Ustic	Ustic, Moist	Ubiquitous Sites
<----- Early Season Precip (Cool Season) to Late Season Precip (Warm Season) ----->	Warm Season	LRU F -- Aridic Ustic (warm season ppt.) Little Bluestem	LRU C -- Typic Ustic (warm season ppt.)		LRU Y -- Typically includes ecological sites with water table less than 42"
	Mixed Cool and Warm Season	LRU A -- Aridic Ustic (mixed cool and warm season ppt.)	LRU D -- Typic Ustic (mixed cool and warm season ppt.)		
	Cool Season	LRU B -- Aridic Ustic (cool season ppt.) Bluebunch wheatgrass	LRU E -- Typic Ustic (cool season ppt.)		


Notes:

1. Cool - Warm season, illustrates a timing of precipitation shift not necessarily an increase in moisture received.
2. Moisture values as fed into the matrix are Relative Effective Annual Precipitation, which is the same as actual ppt on neutral aspects.
3. Examples of vegetation communities, habitat types, and locations outline the central concept of the LRU and are not comprehensive.
4. All of MLRA 58A is Frigid.

DRAFT MLRAs 58A-60B LRUs

Legend

58A_LRUs

 <all other values>

LRU

 A

 B

 C

 D

 E

 F

